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HOOVER UNIVERSAL
Corr. 1985-1986

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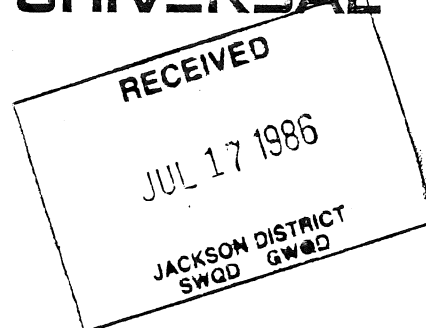
P.O. Box 1000
Ann Arbor, Michigan 48106
Tel. (313) 665-1591

- Salini
Raymond Jusak
Corporate Environmental Engineer

July 16, 1986

Mr. Byron Lane, P.E.
Department of Natural Resources
4th Floor
State Office Building
301 E. Louis Glick Hwy.
Jackson, MI 49201

HOOVER
UNIVERSAL



Re: Universal Die Casting

Dear Mr. Lane:

As promised, the latest PCB analytical results are enclosed for your use. As seen the original test results are reconfirmed indicating PCB's at point #1 on the map.

I will continue to keep you apprised of the status at UDC.

Sincerely,

RJ

Raymond Jusak
Corporate Manager
Environment and Energy

RJ:mab

cc: L. J. Smith
M. Frisch ✓

38245

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION

3983 RESEARCH PARK DR. • ANN ARBOR, MI 48104 • 313 / 761-1389

PROJECT Hoover Universal

DATA SUMMARY SHEET

DATE July, 1986Sample / Date 6/10/86

Parameter	Units	Swamp Soil #1 6-10-86	Swamp Soil #2 6-10-86	Swamp Soil #3 6-10-86
Aroclor 1221	mg/kg	<3.0	<2.8	<1.0
Aroclor 1248	mg/kg	24	7	<0.7
Aroclor 1254	mg/kg	<0.3	<0.3	<0.3
Aroclor 1260	mg/kg	<5.0	<1.1	<0.2
Total PCB	mg/kg	24	7	<2.2
Total Solids	%	75	76	70
note: soil portion analyzed; vegetation excluded.				
% total solids is on soil portion only.				

* units expressed on dry-weight basis

SHEET 1 OF 1

JUL 16 1986

38245

ENVIRONMENTAL CONTROL TECHNOLOGY CORPORATION

3983 RESEARCH PARK DR. • ANN ARBOR, MI 48104 • 313 / 761-1389

PROJECT Hoover Universal

DATA SUMMARY SHEET

DATE July, 1986

Sample/Date

Parameter	* Units	BOS # 1	BOS # 2	BOS # 3	BOS # 4			
Arochlor 1221	mg/kg	<0.9	<1.1	<1.0	<1.0			
Arochlor 1248	mg/kg	<0.7	<0.8	<0.7	<0.7			
Arochlor 1254	mg/kg	<0.3	<0.3	<0.3	<0.3			
Arochlor 1260	mg/kg	<0.2	<0.2	<0.02	<0.2			
Total PCB	mg/kg	<2.1	<2.4	<2.2	<2.2			
Total Solids	%	93	87	79	80			
Freon Extract- able	%	3.4	0.6	0.4	1.1			

* Units expressed on dry weight basis

SHEET 1 OF 1

G.W.C.U. Washburn
Corporate Office
Hoover Universal, Inc. *Hoover Universal*
825 Victors Way
P.O. Box 1003
Ann Arbor, Michigan 48106
Tel. (313) 665-1591

Raymond Jusak
Corporate Environmental Engineer

September 8, 1986

**HOOVER
UNIVERSAL**

Mr. Byron Lane, P.E.
Michigan Department of Natural Resources
State Office Building, 4th Floor
301 E. Louis Glick Hwy.
Jackson, MI 49201

RECEIVED

SEP 09 1986

JACKSON DISTRICT
SWQD GWQD

Dear Mr. Lane:

The attached sample location map and analyses for the Universal Die Casting facility located in Saline, Michigan is provided for your review. As seen, more samples were taken than was designated in the closure plan. This is due to the expanded excavation which included the underground tank area and to assure representative sampling.

Two items require explanation. More than one laboratory was utilized due to turnaround time. Vacations, work load, etc. prevented adequate laboratory turnaround time to meet the predicted job schedule and to facilitate job requirements; therefore, two labs were used to provide quick response.

The second item is the analyses performed by Waste Compliance Services (WCS), Sample #1 and #3. The results exceeded by a small amount the target residual level of 10 PPM of oil and grease. It was explained to me by Suresh Kulkarni of WCS that their detection limit and the organic clay we had experienced likely accounts for the variance. At the time of this sampling, you and Matt Frisch were unavailable and the building was being structurally threatened due to the excavation. In anticipation of the analyses being acceptable due to the overall cleanliness of the underground tank excavation area, the close proximity to 10 PPM target, and the insecure condition of the buildings soil support; I filled the void. I trust this is acceptable.

Mr. Byron Lane
Michigan DNR

Page Two

Backfilling of the shipping area is complete and the lower area has begun. I will notify you as the project is completed. In the intrim I continue the invitation for you and Mr. Frisch to visit at your discretion.

I am available at your convenience if you have any questions.

Sincerely,

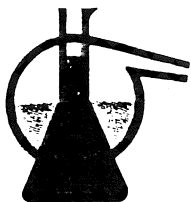


Raymond Jusak
Corporate Manager of
Environment and Energy

RJ:mab

Attachment

cc: M. Frisch
L. Zachary



WASTE COMPLIANCE SERVICES

Specialists in Industrial Waste Analysis

12255 WORMER • REDFORD, MI 48239 • (313) 255-9600

REPORT OF ANALYSIS

July 23, 1986

SAMPLE

SUBMITTED BY: Hoover Universal
ATTN: RAY JUSAK

DATE RECEIVED: July 23, 1986

PROJECT NUMBER: P-2909 (UNDERGROUND TANK AREA)

REPORT NUMBER: R-2909

ANALYSIS REQUESTED: Oil and grease analysis.

METHOD OF ANALYSIS: Ambient temperature petroleum
ether extraction (gravimetric).

RESULTS: Expressed in mg/kg (ppm).

<u>CUSTOMER I.D.</u>	<u>WCS I.D.</u>	<u>PARAMETER</u>	<u>SAMPLE RESULT</u>	<u>DETECTION LIMIT</u>
U.D.C. #1	S-8618	#2 & 6 Fuel (Oil & grease)	18	10
U.D.C. #2	S-8619	#2 & 6 Fuel (Oil & grease)	N.D.	10
U.D.C. #3	S-8620	#2 & 6 Fuel (Oil & grease)	12	10
U.D.C. #4	S-8621	#2 & 6 Fuel (Oil & grease)	N.D.	10
U.D.C. #5	S-8622	#2 & 6 Fuel (Oil & grease)	N.D.	10
U.D.C. #6	S-8623	#2 & 6 Fuel (Oil & grease)	N.D.	10

N.D. Non-detectable.

WASTE COMPLIANCE SERVICES

Analysis by Vishu Peketi
Vishu Peketi
Chemist



Brighton Analytical Inc.

Highland, Michigan 48031

Sample Name/Date

[illegible]

Brighton Analytical Inc.

1576 Alloy Parkway

Phone (313) 887-6364

Highland, Michigan 48031

Chain of Custody Record

Project Name: HOOVER-UPC

Project Number: _____

Relinquished By: Don Nale

Date & Time: 8/22/86 4:53 pm

Recieved By: Gary Wagner

Date & Time: 8/22/86 4:53 pm

[illegible]

DATE Aug. 21, 1986



Brighton Analytical Inc.

1576 Alloy Parkway

Phone (313) 887-6364
DATA SUMMARY SHEET

Highland, Michigan 48031

Sample Name/Date

[illegible]

**1576 Alloy Parkway
Highland, Michigan 48031**

SAMPLE RECEIPT FORM

Client: HOOVER-JDC

Job No. :

Address: ANN ARBOR

Contact Person:

RAY TUSAK

Date: 8/20/86

Phone:

[illegible]

Total Samples:

Delivered by:

Date:

Received by:

Date:



1576 Alloy Parkway

Phone (313) 887-6364
DATA SUMMARY SHEET

Highland, Michigan 48031

Sample Name/Date 8/29/86

[illegible]



Highland, Michigan 48031

Project Name: HOOPER- UDC

Project Number: _____

Relinquished By: Tom Am

Date & Time: 8/30/86 8:52 a.m.

Recieved By: Gary Wagner

Date & Time: 8/30/86 8:52 AM

[illegible]

Corporate Office
Hoover Universal, Inc.
825 Victors Way
P.O. Box 1003
Ann Arbor, Michigan 48106
Tel. (313) 665-1591

Raymond Jusak
Corporate Environmental Engineer

**HOOVER
UNIVERSAL**

RECEIVED

MAR 28 1986

JACKSON DISTRICT
SWQD GWQD

March 12, 1986

Mr. Byron Lane
Environmental Engineer
Surface Water Quality Division
Jackson State Office Bldg.
301 E. Louis B. Glick Hwy.
Jackson, MI 49201

Dear Mr. Lane:

The enclosed boring logs and site map depict the locations, hydrology and soil profiles encountered during our soil sample retrieval conducted on February 27, 1986. The samples that we extracted were taken to Encotec, Inc. the same day for PCB analysis.

I will notify you as the analytical results are known to me. Thank you and Matt Frisch for your assistance.

Sincerely,

Ray Jusak/ml

Raymond Jusak

RJ/ml

Attachment

cc: L. J. Smith
M. Frisch, DNR, Lansing



Professional Service Industries, Inc.
Michigan Testing Engineers Division

February 28, 1986

Hoover-Universal
825 Victors Way
Ann Arbor, Michigan 48106

Attention: Mr. Ray Jusak

Re: Soil Profile Borings
Universal Die Casting
Saline, Michigan
PSI File No. 407-55006-2

Gentlemen:

In accordance with your instructions, we have drilled auger profile borings in the locations and to the depths directed by you. A copy of a site plan provided by you is attached, which shows the approximate boring locations. Ground surface elevations at the boring locations were not recorded.

Groundwater levels were recorded at the time the borings were drilled. The permeability of the soils, seasonal variations, temperature, and recent rainfall conditions may influence water levels at other times.

Copies of the boring logs are appended. The stratification of the soils on these logs represents the soil conditions in the actual borings locations, and variations may occur between the borings. Lines of demarcation represent the approximate boundaries between the soil types, but the transition may be gradual.

No conclusions or analyses have been made, but if we can be of further service, please do not hesitate to call.

Very truly yours,

PROFESSIONAL SERVICE INDUSTRIES, INC.
Michigan Testing Engineers Division

W.K. Swartzendruber, P.E.
Vice President

WKS/sf

Enclosures

Professional Service Industries, Inc.

RECORD OF SUBSURFACE EXPLORATION

Boring B-1

Project Name: Universal Die Casting Date of Boring: February 27, 1986

Site: Monroe Street, Saline, Michigan Project No.: 407-55006

DESCRIPTION	DEPTH	SAMPLE	N	Q _u	Q _p	M _c	REMARKS
SURFACE							
SAND and CLAY fill, moist	5						Heavy Groundwater encountered at 7'0"
SAND, CLAY, wet, oil	10						
Coarse SAND, gray, wet							
Silty CLAY, gray, moist							
End of Boring	15						

Professional Service Industries, Inc.

RECORD OF SUBSURFACE EXPLORATION

Boring B-2

Project Name: Universal Die Casting

Date of Boring: February 27, 1986

Site: Monroe Street, Saline, Michigan

Project No.: 407-55006

DESCRIPTION	DEPTH	SAMPLE	N	Q _u	Q _p	M _c	REMARKS
SURFACE							
SAND and CLAY fill, moist	5						Heavy Groundwater encountered at 7'0"
SAND, wet, oil	10						
CLAY, gray, moist							
End of Boring	15						

Professional Service Industries, Inc.

RECORD OF SUBSURFACE EXPLORATION

Boring B-3

Project Name: Universal Die Casting Date of Boring: February 27, 1986

Site: Monroe Street, Saline, Michigan Project No.: 407-55006

DESCRIPTION	DEPTH	SAMPLE	N	Q _u	Q _p	M _c	REMARKS
SURFACE							
SAND and CLAY fill, moist	5						
SAND and SILT fill, moist							
SAND and SILT fill, wet, oil	10						Heavy Groundwater encountered at 8'0"
SILT, gray, moist							
CLAY, gray, moist							
End of Boring	15						

Professional Service Industries, Inc.

RECORD OF SUBSURFACE EXPLORATION

Boring_____B-4

Project Name: Universal Die Casting Date of Boring: February 27, 1986

Site: Monroe Street, Saline, Michigan Project No.: 407-55006

DESCRIPTION	DEPTH	SAMPLE	N	Q _u	Q _p	M _c	REMARKS
SURFACE							
SAND and CLAY fill, moist	5						Light to Heavy Groundwater encountered at 8'0"
SAND and SILT mix, wet, light brown	10						
Medium SAND, wet, oil							
CLAY, gray, moist							
End of Boring	15						

RECORD OF SUBSURFACE EXPLORATION

Project Name: Universal Die Casting Date of Boring: February 27, 1986
Site: Monroe Street Project No.: 407-55006

DESCRIPTION	DEPTH	SAMPLE	N	Q _u	Q _p	M _c	REMARKS
— SURFACE —							
SAND and CLAY, brown fill, moist							
SAND and CLAY fill, black, moist	5						
SAND and SILT, black, wet							
	10						
Silty CLAY, gray, moist, very stiff	15	1 SS	20				Heavy Groundwater encountered at 6'6"
End of Boring							

OK SAMPLING

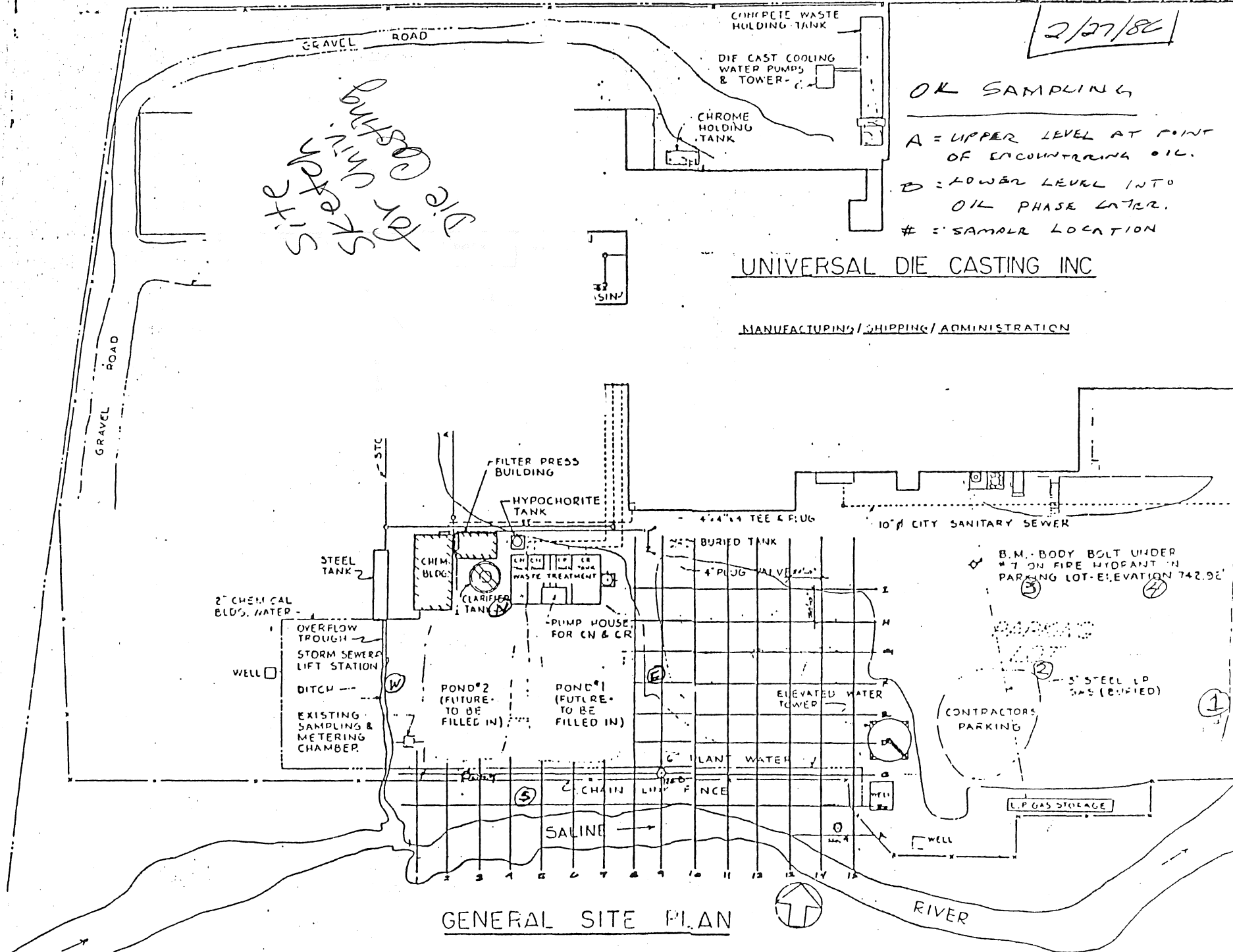
A = UPPER LEVEL AT POINT OF ENCOUNTERING OIL.

B: LOWER LEVEL INTO OIL PHASE LATER.

= 'SMALLER LOCATION'

UNIVERSAL DIE CASTING INC

MANUFACTURING / SHIPPING / ADMINISTRATION



LEGEND / ABBREVIATIONS / SYMBOL

CYANIDE(C).....	PERIODIC
		-----CN-----

NATURAL RESOURCES COMMISSION

THOMAS J. ANDERSON
E. R. CAROLLO
MARLENE J. FLUHARTY
STEPHEN F. MONSMA
O. STEWART MYERS
RAYMOND POUPORE
HARRY H. WHITELEY

STATE OF MICHIGAN



JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

RONALD O. SKOOG, Director

Reply to:

4th Flr. State Ofc. Bldg.
301 E. Louis Glick Hwy.
Jackson, MI 49201

March 18, 1985

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<u>Parameter</u>	<u>Soil @ Bridge</u>	<u>Soil @ Lagoon</u>	<u>Water from Well #8</u>
Scan 1**	Negative	-	Negative
Scan 2**	*	-	Negative
Scan 3**	Aroclor 1242-21 mg/kg Aroclor 1254-10 mg/kg Aroclor 1260- 4 mg/kg	Negative	-
Total Phenolics	1.6 mg/kg	4.6 mg/kg	-
Cadmium	< 2 mg/kg	< 2 mg/kg	-
Chromium	34 "	665 "	-
Copper	29 "	220 "	-
Nickel	58 "	2290 "	-
Lead	5 "	6 "	-
Zinc	230 "	280 "	-

All values in mg/kg dry weight.

*Miscellaneous aliphatic and aromatic hydrocarbons were present but not quantified

-Analysis not performed.

**See attached organic scan list.

ORGANIC SCAN LIST
MATRIX: WATER
OCTOBER 1984

SCAN 1 - Purgeable Halocarbons

Bromodichloromethane	1,2-Dichloroethene (cis & trans)
Bromoform	1,2-Dichloropropane
Carbon tetrachloride	1,3-Dichloropropene (cis & trans)
Chlorobenzene	Methylene chloride (request only)
Chloroform	1,1,2,2-Tetrachloroethane
Dibromochloromethane	Tetrachloroethene
1,1-Dichloroethane	1,1,1-Trichloroethane
1,2-Dichloroethane	1,1,2-Trichloroethane
1,1-Dichloroethene	Trichloroethene

SCAN 2 - Purgeable Aromatic Hydrocarbons

Benzene	Toluene
Ethylbenzene	Xylene isomers (o, m, and p)
Styrene	

SCAN 3 - Chlorinated Hydrocarbons, PCBs & Organochlorine Pesticides

Aldrin	4,4'-DDT
*Aroclor 1016	1,2-Dichlorobenzene
*Aroclor 1221	1,3-Dichlorobenzene
*Aroclor 1232	1,4-Dichlorobenzene
Aroclor 1242	Heptachlor
*Aroclor 1248	Heptachlor epoxide
Aroclor 1254	Hexabromobenzene
Aroclor 1260	Hexachlorobenzene
*Aroclor 1262	Hexachlorobutadiene
*Aroclor 1268	Hexachlorocyclopentadiene
g-BHC (lindane)	Hexachloroethane
BP-6 (PBB)	Methoxychlor
a-Chlordane	Mirex
g-Chlordane	Octachlorocyclopentene
2-Chloronaphthalene	Pentachloronitrobenzene
4,4'-DDD	*Toxaphene
4,4'-DDE	1,2,4-Trichlorobenzene
1,4'-DDT	

STATE OF MICHIGAN



JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

RONALD O. SKOOG, Director

Reply to:

4th Flr. State Ofc. Bldg.
301 E. Louis Glick Hwy.
Jackson, MI 49201

NATURAL RESOURCES COMMISSION

THOMAS J. ANDERSON
E. R. CAROLLO
MARLENE J. FLUHARTY
STEPHEN F. MONSMA
O. STEWART MYERS
RAYMOND POUPORE
HARRY H. WHITELEY

December 3, 1984

*204
J. Kelly*

Mr. Raymond Jusak, Staff Env. Engr.
Hoover Universal, Inc.
825 Victors Way
Ann Arbor, MI 48106

*245- Wash-burn's
G.W. Clean up file*

Subject: (Universal Die Casting, Inc. Saline, Michigan)

Dear Mr. Jusak:

We have reviewed your submittal of September 11, 1984, in which you described a plan of study for the subsurface contaminations at the Universal Die Casting plant in Saline. Our comments on this plan are as follows:

1. We suggest that any underground storage tanks containing substances similar to those found to be contaminating the groundwater and soil on the north side of the Saline River, be tested for possible leakage.
2. The plan should include a provision to expand the boring grid should it be determined that the black oily substance (BOS) extends beyond the proposed grid.
3. The study should provide additional evidence that the clay confining layer is continuous in the vicinity of the soil and groundwater contamination.
4. A boring should be taken at a point within the boundaries of the abandoned quench oil lagoon. This boring should extend to a depth of at least the bottom of the former lagoon to determine if all the former contents had been removed. If BOS is found, the boring should be continued to determine the full extent (vertically) of the BOS. This could eliminate the lagoon as the source of the BOS.
5. The proposed maximum boring depth of 6' would not detect BOS at depths between 6' and the confining layer. We request the borings be to the depth of either the BOS or the confining layer, whichever is contacted first.
6. In order to better characterize the BOS, the following parameters should be measured in addition to those proposed:

Cyanide
Cadmium
Phenol
Purgeable Halocarbons

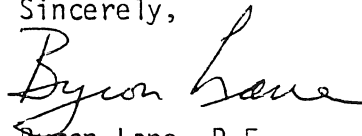
Mr. Raymond Jusak
Hoover Universal, Inc.
December 3, 1984
Page 2

7. An estimate should be made of the mass loading to the Saline River of the various contaminants associated with the BOS.

Please submit a revised study plan incorporating a response to the above listed comments to this office by January 4, 1985.

If you have any questions or comments, please contact me.

Sincerely,

A handwritten signature in cursive script, appearing to read "Byron Lane".

Byron Lane, P.E.
Environment Engineer
Surface Water Quality Division
517-788-9598

BL:sl

cc: R. Gallatin, Universal Die Cast
R. Kooistra, GWQD
R. Basch, HWD